

1st Heidelberg Astronomy Summer School

**Physics of the Interstellar Medium
25th - 29th September, 2006**

organized by the

***International Max Planck Research School (IMPRS) for
Astronomy and Cosmic Physics at the University of Heidelberg***

Invited Lecturers:

Prof. Dr. Leo Blitz, University of California, Berkeley
Prof. Dr. Thomas Henning, Max Planck Institute for Astronomy, Heidelberg
Prof. Dr. Robert Williams, Space Telescope Science Institute, Baltimore

Location: Max Planck conference centre ("Max-Planck-Haus"),
Gerhart-Hauptmann-Str. 36, 69120 Heidelberg

School programme:

Monday, 25th September, 2006

- 14:00 – 14:30 Welcome address (H.-W. Rix, Spokesman IMPRS Heidelberg)
14:30 – 15:45 The multi-phase model of the interstellar medium (L. Blitz)
15:45 - 16:15 Coffee break
16:15 – 17:30 The analytic tracers (R. Williams)
17:30 – 18:00 Science talk: Numerical simulations of molecular cloud collaps (R. Klessen)

Tuesday, 26th September, 2006

- 09:30 – 10:45 Radio astronomy - short introduction (L. Blitz)
10:45 – 11:15 Science talk: Magnetic fields, jets and outflows (Ch. Fendt)
11:15 - 11:30 Coffee break
11:30 – 12:45 The ionized interstellar medium (R. Williams)
12:45 – 14:00 Lunch
14:00 – 15:15 Molecular clouds (Th. Henning)
15:15 - 15:45 Coffee break
15:45 – 17:30 Practical exercises II: Line flux (H-alpha) of an idealized nebula (R. Williams)
17:30 – 21:00 Excursion: Tour & Reception at the Max Planck Institute for Astronomy

Wednesday, 27th September, 2006

- 09:30 – 10:45 Exercise lecture: ISM dynamics: theoretical considerations (R. Klessen)
- 10:45 – 11:15 Science talk: Multi-line surveys & chemistry in molecular clouds (H. Beuther)
- 11:15 - 11:30 Coffee break*
- 11:30 – 12:45 Cosmic dust (Th. Henning)
- 12:45 – 14:00 Lunch*
- 14:00 – 14:30 Science talk: Radiative transfer as a tool (J. Steinacker)
- 14:30 – 15:30 The atomic gas (L. Blitz)
- 15:30 - 15.45 Coffee break*
- 15:45 – 17:00 Practical exercises II: Cosmic dust, column density, radiation transfer
(J. Steinacker, Th. Henning)
- 17:30 – 19:30 Excursion: Guided tour at the Castle of Heidelberg*

Thursday, 28th September, 2006

- 09:30 – 10:00 Science talk: Studies of the ISM with high-energy gamma-rays (S. Wagner)
- 10:00 – 11:15 Key results from HST: stars & resolved stellar systems (R. Williams)
- 11:15 - 11:30 Coffee break*
- 11:30 – 12:00 Science talk: Dust & gas in nearby galaxies, news from Spitzer & VLA (F. Walter)
- 12:00 – 14:00 Lunch*
- 14:00 – 18:00 Excursion: Boat trip on the Neckar River*

Friday, 29th September, 2006 (*location: Old Auditory of Heidelberg University*)

- 09:30 – 10:45 Interstellar medium in other galaxies (L. Blitz)
- 10:45 – 11:15 Science talk: Quantum processes in the interstellar medium:
laboratory research (A. Wolf)
- 11:15 - 11:30 Water & fresh air break*
- 11:30 – 12:45 Key results from HST - the distant universe (R. Williams)
- 12:45 – 12:55 Farewell address (Th. Henning, Director at MPIA)
- 12:55 – 14:00 Lunch, departure*